

REMARKS/ARGUMENTS

Claims 1-9, 42 and 43 are active in the case.

The Examiner is thanked for the courteous interview conducted on January 30, 2006 in which the issues in the case were clarified. Arguments were made at the interview that the process of the present claims produces a plate of single crystal diamond different in kind from that produced in EP 0879904 A1. The Examiner agreed to consider arguments presented in the present response.

Claims 1 and 2 were amended to remove limitations on the substrate surface and on the severing of the substrate surface, which limitations appear in new Claims 42 and 43.

Basis for the removal of these limitations appears on page 8, lines 4 through 8 of the specification. Claims 1 and 9 have been further amended to add the phrase "having major faces that are transverse to the surface of the substrate". Basis for this limitation may be found in Figure 4 and the discussion thereof on page 9, line 1 through page 10, line 2, especially page 9, last two lines and page 10, lines 1 and 2 of the specification, and in Example 1, second paragraph, Example 2, second paragraph and Example 3, first paragraph, lines 7-9.

New dependent Claims 42 and 43 have been added to reinstate the limitations removed from Claims 1 and 2.

No new matter has been added into the amended claims or new claims.

It is noted that the Examiner has not acknowledged the claim for foreign priority which was filed on May 17, 2004 and included the filing of the priority document. It is requested that the Examiner acknowledge the claim for foreign priority and the receipt of the priority document in the next Official Action.

The rejection of Claims 1-7 and 9 under 35 U.S.C. § 103(a) as unpatentable over Scarsbrook et al. in view of Saito et al. is traversed.

The Examiner admits that Scarsbrook et al. does not teach severing the homoepitaxial CVD grown diamond alone or including the substrate transverse to the surface of the substrate on which diamond growth took place to produce a plate of single crystal CVD diamond having major faces that are transverse to the surface of the substrate.

The Examiner cites Saito et al. to remedy the deficiency of Scarsbrook et al. and asserts that Saito et al. in column 3, line 50 to column 4, line 50 and column 9, lines 5-30 teaches cutting a single crystal diamond vapor deposited on the major surface of a single crystal diamond substrate perpendicular to the major surface.

However, it is clear from the discussion on page 9, line 1 through page 10, line 2 of the specification of Figure 4 of the drawings, when compared to the drawings and the discussion thereof in EP 0879904 A1, that the single crystal diamond plate made by the process of the present invention is different in kind from the single crystal diamond plate produced by the process of EP 0879904 A1.

Figure 4 and the discussion thereof in the present specification referred to above clearly indicates that the single crystal diamond plate produced by cutting the diamond plate along lines 44 of Figure 4 is a plate with major faces that are transverse to the surface of the substrate. It can clearly be seen from Figure 4 that the major faces 46 of the single crystal diamond plate produced by the cutting in Figure 4 are transverse to the surface of the substrate and minor faces 48 are parallel to the surface of the substrate. This interpretation is further supported by the language in Examples 1-3.

Advantages of the cutting procedure of the present invention are enumerated on page 6, last paragraph, through page 8, line 3 of the specification, and result in a minimizing of the defects within the single crystal diamond plate and a maximizing of the crystal quality of the single crystal diamond plate.

In contrast, the Figures and the discussion thereof in EP 0879904 A1 show in Figure 1A a substrate 50 with a major face 50a and side faces 50b and 50c upon which is grown single crystal diamond homoepitaxially to produce the plate shown in Figure 1B. Portions of the upper and lower surfaces are trimmed off, as desired, to produce a plate as shown in Figure 2C upon which is outlined the material 12 to be cut out of plate 53 containing the homoepitaxially grown single crystal CVD diamond. As can clearly be seen in Figures 4A, 4B and especially 4C, the material 12, which is cut out of plate 53, is significantly larger in area than the area of starting plate 50 and shows major faces parallel to the major faces of the starting material 50. This result is desired by the process of EP 0879904, because the objective of EP 0879904 A1 is growing large area single crystal diamond plates. Thus, it can be seen that the objectives of the process of the present claims and the objectives of EP 0879904 A1 are entirely different and the single crystal CVD diamond plates grown by the process of the present claims and the process of EP 0879904 A1 are different in kind.

Therefore, the claims distinguish over the combination of references.

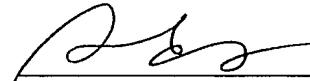
The rejection of Claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Scarsbrook et al. in view of Saito et al., further in view of Vichr et al. or Banholzer et al. is traversed.

As argued in the preceding paragraph, the combination of Scarsbrook et al. and Saito et al. fails to teach or suggest the process steps of the present claims. Therefore, it is submitted that Claim 8 distinguishes over the combination of references for the reasons presented above.

It is submitted that Claims 1-9, 42 and 43 are allowable and such action is respectfully requested.

Respectfully submitted,

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